Technology Challenges and Opportunities to Implementing an E-Prescribing Solution

Jim Jones

Manager Healthcare Solutions

jjones@hp.com

Industry Perspective

- Short review of last 5 years to set the stage

- It really is all about the patient

- Digitally integrating the hospital/physician practice

- Visual of the road to the ultimate goal-interoperable health records for all

- Listing of some initiatives in play (3)

- Lessons from organizations that have adopted or are running programs to encourage/reward E-Prescribing

The road to adoption

eRx Collaborative established in MA – 2003

Formed by BCBS, Tufts, and the Neighborhood Health Plan to promote ePrescribing in MA

Partners for Patients: Family Physicians + Industry = Electronic Health Records

American Academy of Family Physicians Partners With Leading Information Technology Companies to Provide Electronic Health Record Technology to Medical Practices

FOR IMMEDIATE RELEASE
November 12, 2003

CCR (Continuity of Care Record) Initiative driven by AAFP, MA Health Association and industry 2003,4,5-to eventual resolution of CCR and CDA adoption/clarification by ASTM/HL7

Focused on eventual goal of interoperable care record among any provider/physician/patient

Another step on the road to encourage change

February 2004

Sen. Hillary Clinton (D, N.Y.) has introduced a five-point plan to modernize the health care system by:

- Increasing research on the quality of care, including comparative studies of drugs and treatments.
- Establishing a standardized reporting system that allows patients to compare clinicians' performances.
- Building an information technology infrastructure that enables data sharing.
- Giving patients and clinicians instant access to health information, including research findings.
- Conducting studies and demonstrations to identify payment systems that reward quality.

Bush and Medicare Wants Electronic Scripts

(February 04, 2004) The Department of Health and Human Services will develop an electronic prescription program for use with its new Medicare Part D drug benefit. "Electronic standards will reduce the number of prescribing errors that occur each year and protect Medicare beneficiaries against the possibility of medication errors," according to President Bush's proposed 2005 budget for HHS.

- **Bush touts digital health info**

- **BY Sara Michael
  April 26, 2004** President Bush this week outlined a plan to have electronic health records for most Americans within 10 years.

Subsequent Initiatives

- DOC-IT

- PQRI Reporting

- MIPPA Legislation (Medicare Improvements for Patients and Providers Act-July '08)

- MITA-(Medicaid Information Technology Architecture)

- CCHIT (Certification Commission for Healthcare Information Technology Architecture) agrees to extend certification/review to E-Prescribing software

- SureScripts-RxHub merge to complete national network

- DEA delivers plan to include controlled substances in CMS E-Prescribing initiative

- Multiple states apply for and begin using grants to fund E-Prescribing Pilots

- https://www.epsilonregistration.com/er/EventHomePage/CustomPage.jsp?ActivityID=378&ItemID=1131
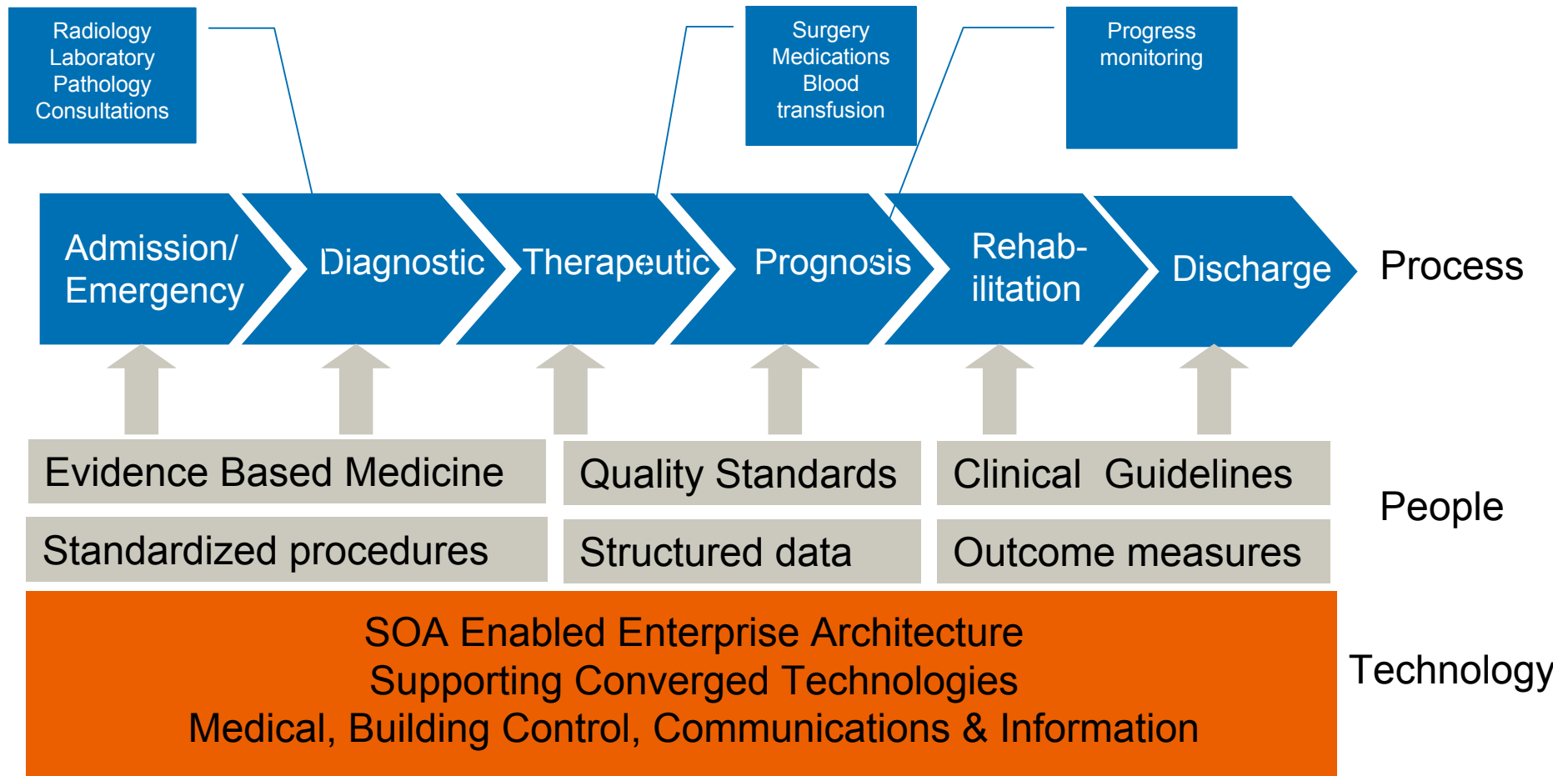
What is a Digital Hospital?

- Relies on technology as an integral & fundamental part of its business strategy

- Enables the organization to leverage its potential for delivering higher-quality patient centric care, in increasingly efficient ways through the use of technology & process redesign.

- Builds on an Enterprise Architecture that goes beyond advanced clinical systems & includes technology integration to create a pervasive, real-time health information environment
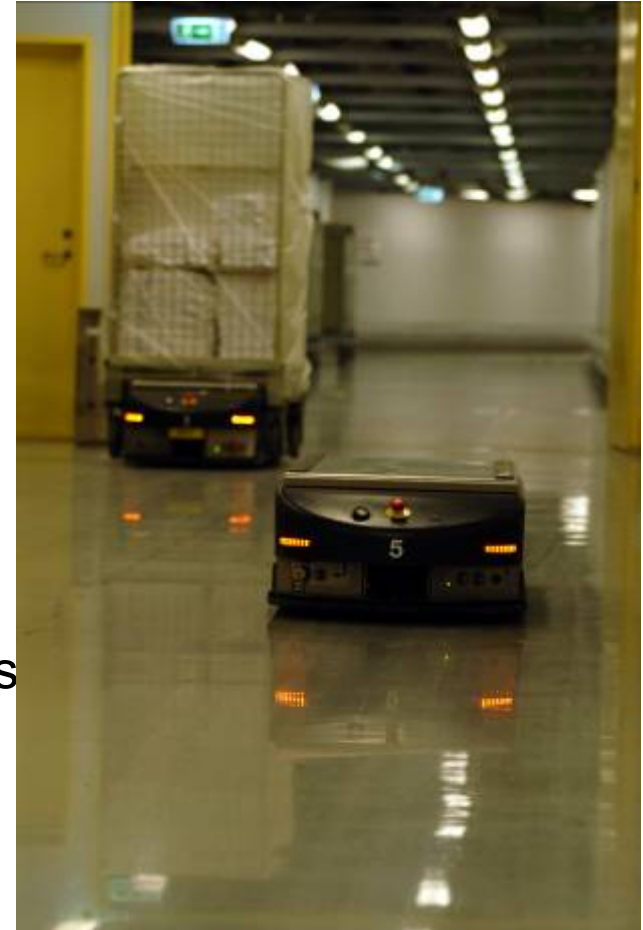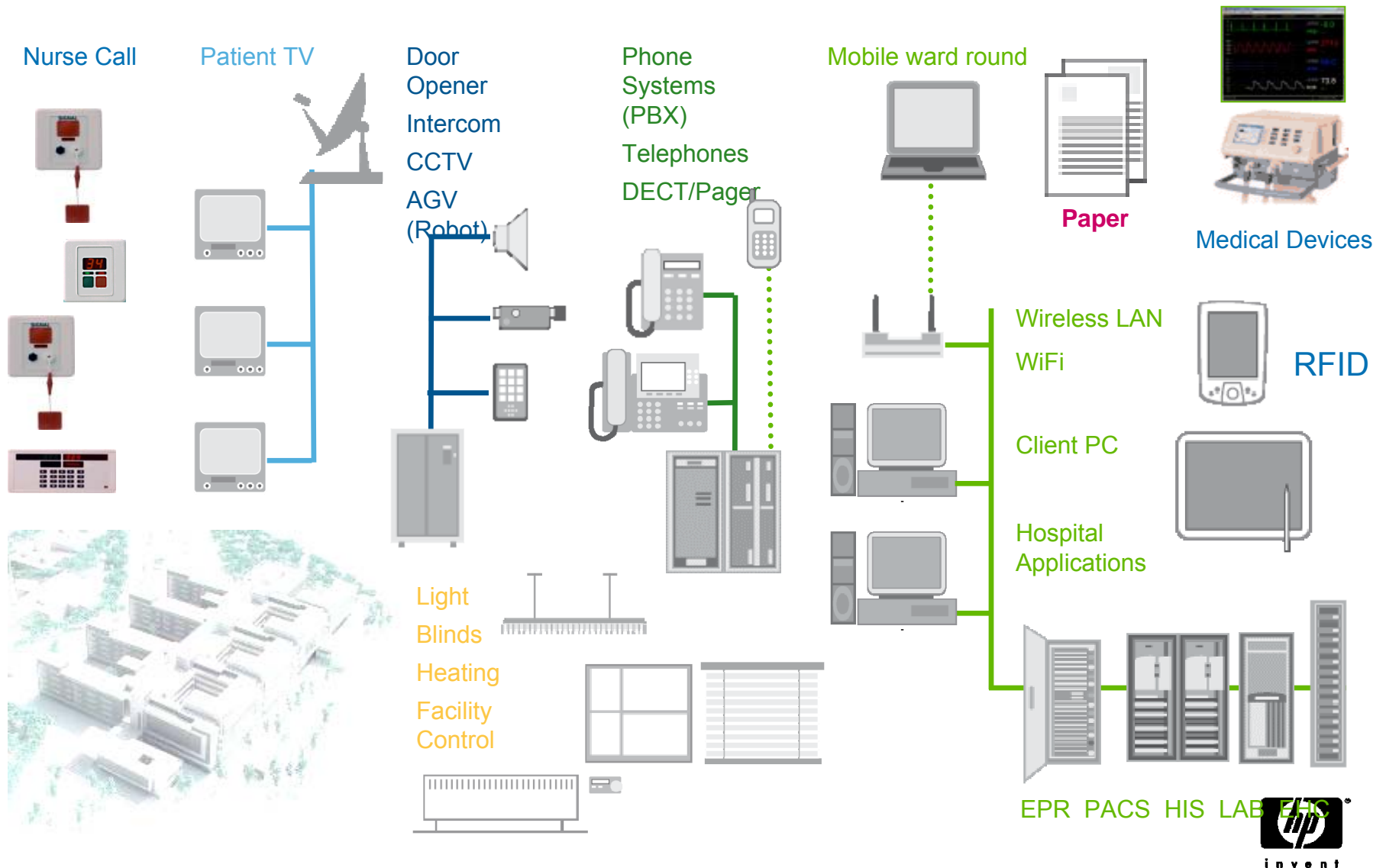
Digital Hospital Enterprise Architectures in many Provider settings are well on their way

The Hospital Care Process (Value Chain)

Radiology
Laboratory
Pathology
Consultations

Surgery
Medications
Blood
transfusion

Progress
monitoring

Admission/
Emergency → Diagnostic → Therapeutic → Prognosis → Rehab-ilitation → Discharge — Process

Evidence Based Medicine

Quality Standards

Clinical Guidelines

People

Standardized procedures

Structured data

Outcome measures

SOA Enabled Enterprise Architecture
Supporting Converged Technologies
Medical, Building Control, Communications & Information

Technology

However, the infrastructure
of hospitals today, remains fragmented

Nurse Call

Patient TV

Door
Opener

Intercom

CCTV

AGV
(Robot)

Phone
Systems
(PBX)

Telephones

DECT/Pager

Mobile ward round

Paper

Medical Devices

Light

Blinds

Heating

Facility
Control

Wireless LAN

WiFi

Client PC

Hospital
Applications

RFID

EPR PACS HIS LAB EHC

Providing a convergence of IP for the Infrastructure is key to interoperability

Patient terminal   **IP phones**   **IP wireless phones**   **MDA/ PDA**   **PC**   **Mobile phones (SMS)**   **Pager**   **Nurses' portal**

GSM

OPC, SMTP, SMNP

LAN/WLAN

IMATIS®
Middleware
PACS
EPR
EHC
Laboratory etc.

IP converter ESPA 4.4.4

I/O signal converter

Nurse call

Patient monitoring medical equipment

Facility control

Document Capture

WiFi tags
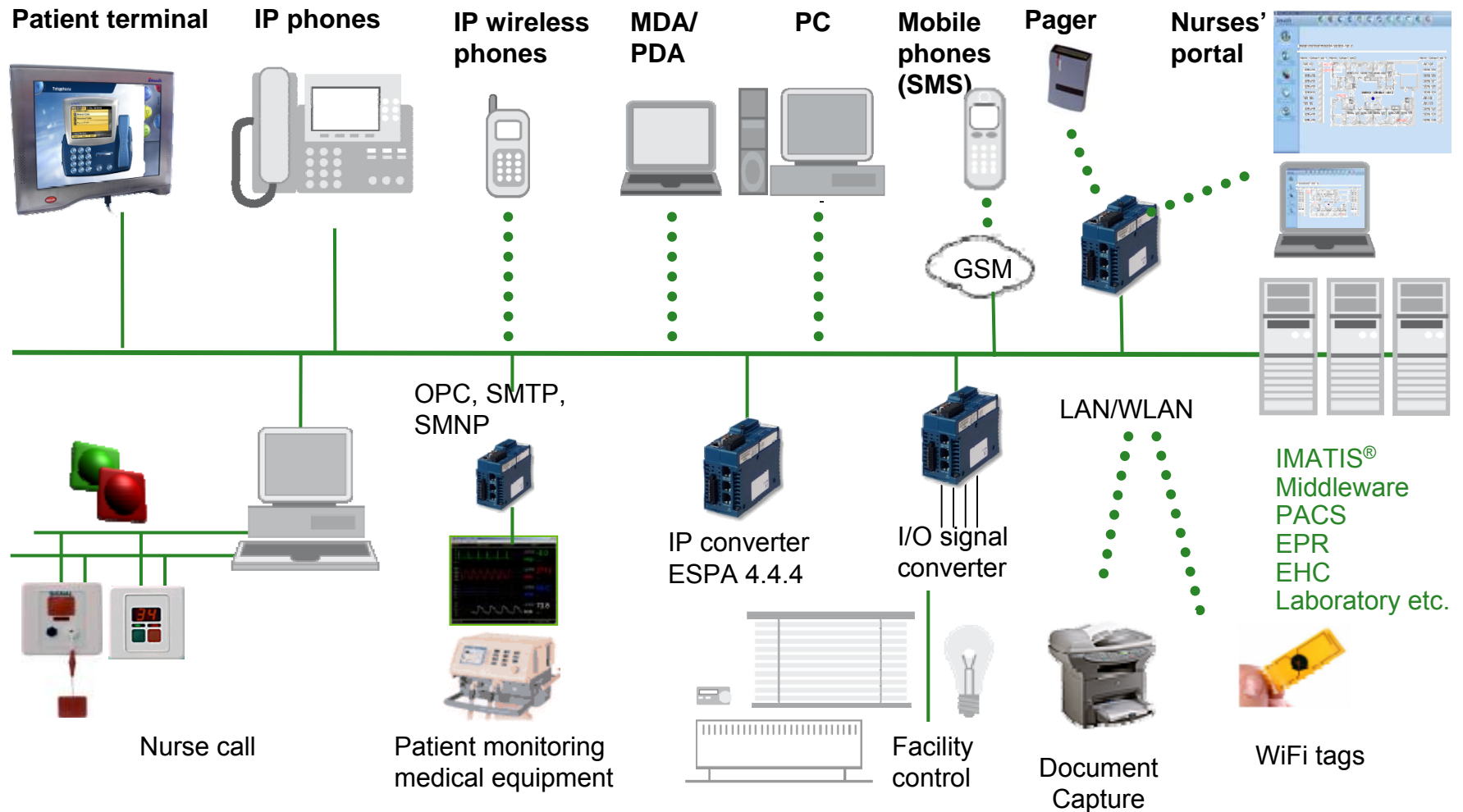
Everything over IP – IP Everywhere

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The Digital Hospital provides internal and external connectivity for the patient record
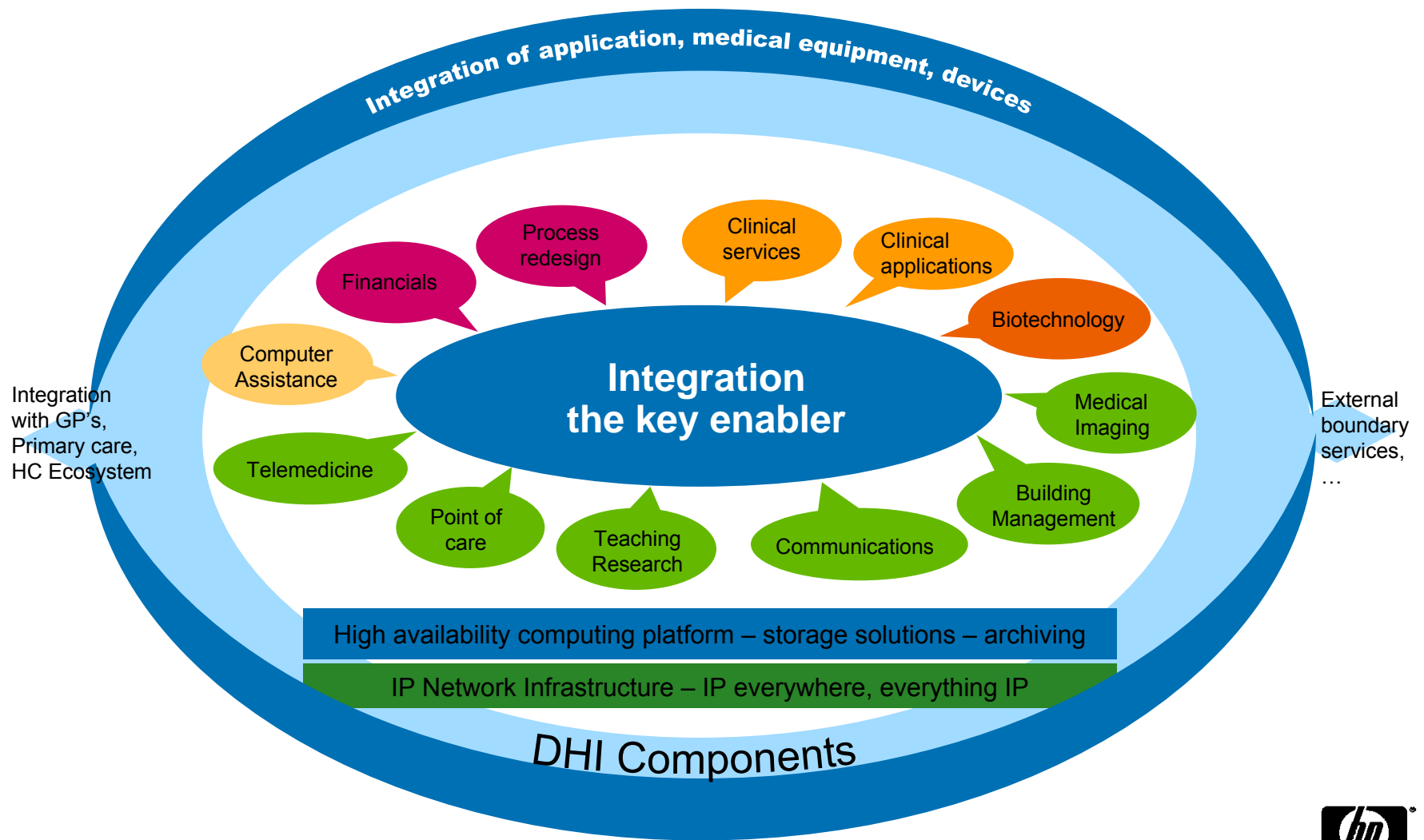
Cost/Benefit Analysis is well documented

- Identification of business objectives

- Establish key facts – salaries, time taken for tasks

- Estimate process improvement with solution

- Calculate benefit in time saved

- Convert time saved to financial value using key facts

- Assess impact on qualitative measures.

- Measures:
  - Quantitative benefits
    - Time saved
    - Cost reduction
    - Revenue enhancement
  - Qualitative benefits
    - Patient satisfaction
    - Staff satisfaction

Can be applied pre- and post-implementation

Benefits to such a Strategy-in-action
Digital Hospital value to all stakeholders

Accelerate business growth

Speed innovation to transform health

Lower costs/increase efficiency

Improve operational efficiencies

Mitigate risks

Improve quality of care

1 **Improves patient satisfaction and clinical outcomes** by providing access to educational material, entertainment, and self-service applications on interactive patient terminal

2 **Reduces storage costs and facilitates image sharing** with HP's Medical Archive solution and SWD platforms
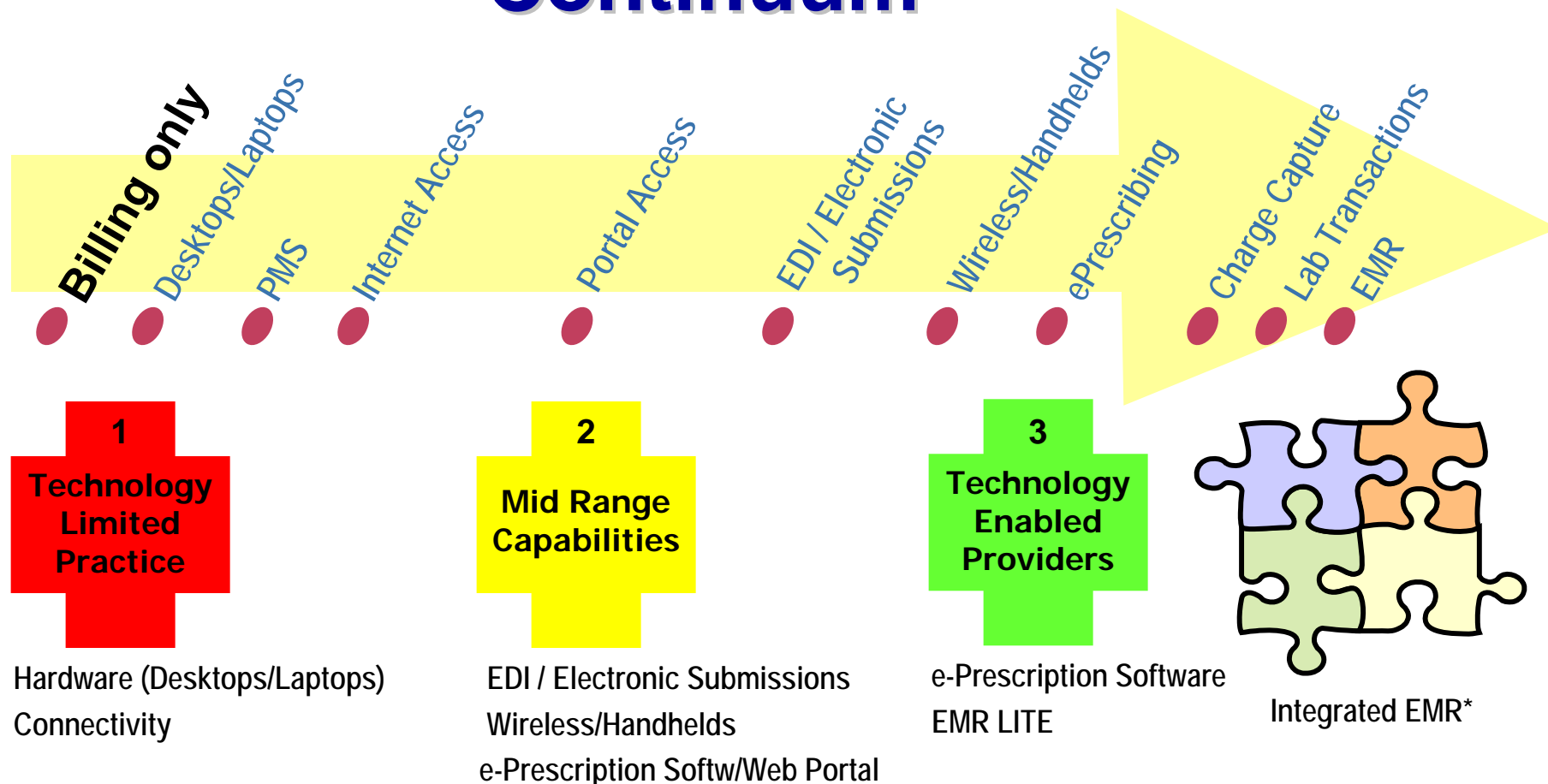
3 **Enhances collaboration and communication** through the Integration the multiple networks and medical devices into a unified IP-based communications network (partnered with Cisco and Imatis)

4 **Improves the efficiency of clinical staff** through the use of workflow integration, use of location-based services, and mobile communications
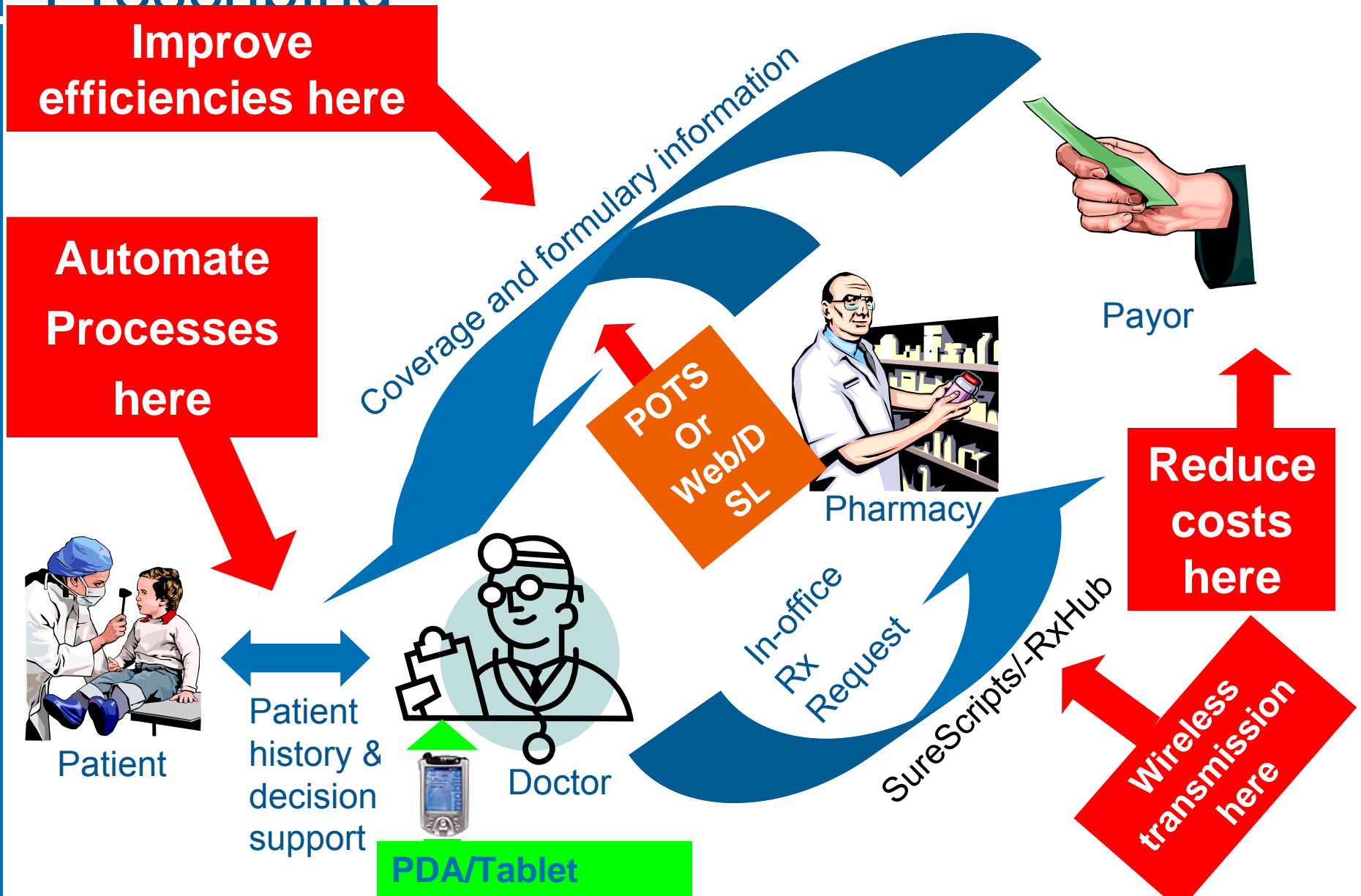
5 **Improves the physicians ability to navigate complex genetic information.** Data from genetic sequencers is captured, aggregated with our medical data, and a clinical intelligence system assists the medical professional in selecting the best diagnosis or therapy

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Physician Technology Enablement

Continuum

Continuum labels (left to right): Billing only · Desktops/Laptops · PMS · Internet Access · Portal Access · EDI / Electronic Submissions · Wireless/Handhelds · ePrescribing · Charge Capture · Lab Transactions · EMR

1 — Technology Limited Practice
Hardware (Desktops/Laptops)
Connectivity

2 — Mid Range Capabilities
EDI / Electronic Submissions
Wireless/Handhelds
e-Prescription Softw/Web Portal

3 — Technology Enabled Providers
e-Prescription Software
EMR LITE

Integrated EMR*

To Be Successful You Must Enable Your Providers with a Path to the Future

Starting at the beginning-E-Prescribing

**Improve efficiencies here**

Automate Processes here

Coverage and formulary information

Payor

POTS Or Web/DSL

Pharmacy

Reduce costs here

In-office Rx Request

SureScripts/-RxHub

Wireless transmission here

Patient

Patient history & decision support

Doctor

PDA/Tablet

Collaborative prescribers have sent 15.6 million electronic prescriptions since the start of the program in 2003


eRx Written Per Quarter
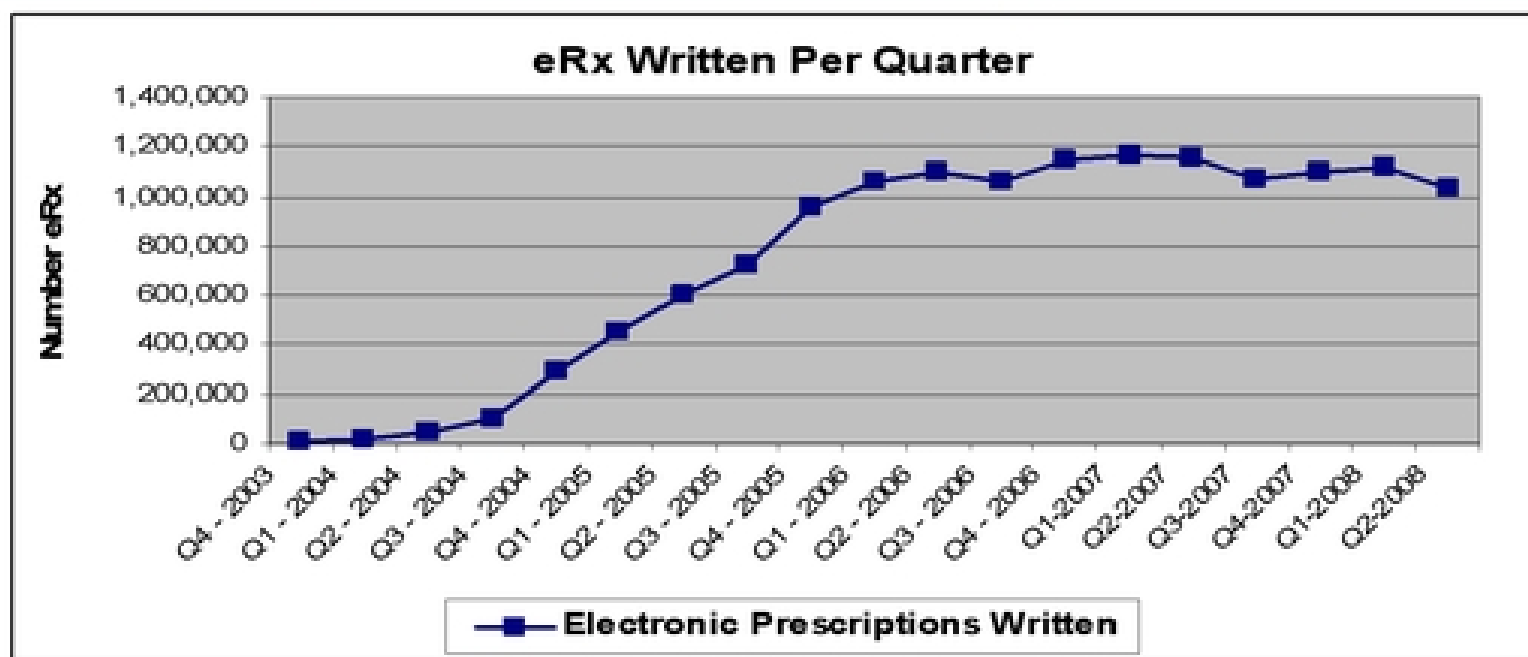
As of June 30, 2008:

- **2.1** million electronic prescriptions sent YTD
- **218** new prescribers deployed YTD

The Impact of Incentives

- BCBSMA PCP e-Technology incentive implemented in 2004
- Awarded $5.7M in incentive dollars for e-Technology measure in year 1; over $25M in incentives for e-Technology adoption through 2007

eRx Collaborative Prescriptions Written Per Quarter
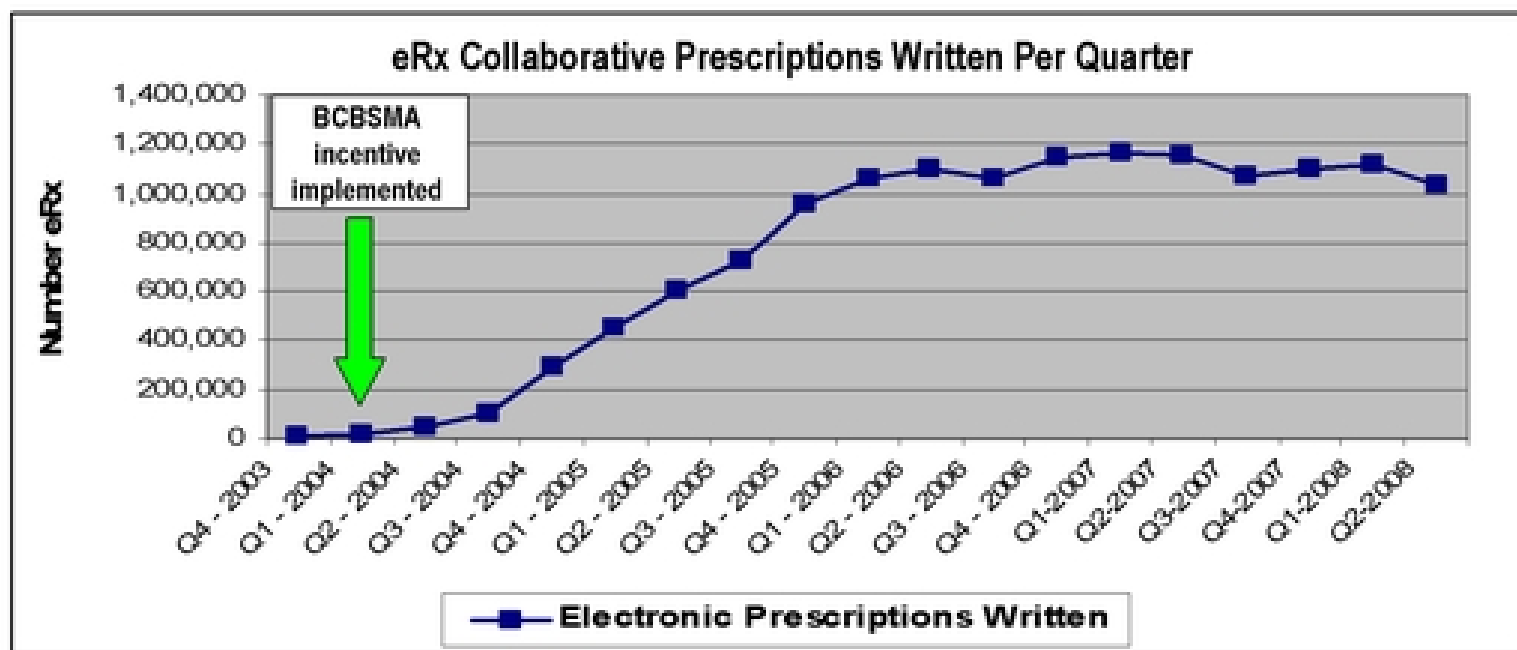
Key Lessons Learned

If You Build It, They May Not Come...

- Forums held in centralized locations to educate providers about the technology and to encourage them to sign up for the free offer were not successful

- Technology vendor must go to the physician office directly to engage MDs and their staff

Free is Not Cheap Enough

- Initial start up costs must be subsidized

- Additional incentives required to promote utilization

Key Lessons Learned, *continued*

Importance of Training

- Ensure technology is intuitive and provider training is focused

- Provide targeted office staff training

- Provide on-site support during roll-out and recommend site champions where applicable

Perceived Lack of Value

- Collaboration between Health Plan competitors can send powerful message

- Highlight efficiency opportunity for providers, specifically with prescription renewal requests, and potential to enhance quality of care

- Discuss e-prescribing benefits for <u>all stakeholders</u> within health care system to improve quality, delivery, and affordability

Key Lessons Learned, *continued*

Technology Infrastructure

- Confirm appropriate technological infrastructure exists to support e-prescribing prior to implementation
- Engage practice's IT team early in the deployment process
- Ensure technology is consistent with organization's security standards and requirements
- Ensure interoperability with existing or future technologies (e.g. EMRs)

Utilization

- Recognize that office staff support is fundamental
- Ensure utilization monitoring and outreach when issues are detected
- Reward and recognize prescribers for successful utilization
- Provide vendors with incentives for utilization

NH's Approach

- In October 2006, the Governor issued a challenge to the marketplace to make ePrescribing happen

- The NH Citizens Health Initiative provides project management, education, and marketing resources to stimulate the market

- Active partnerships have been developed with providers, employers, payers, and ePrescribing industry to provide a "market" based solution to ePrescribing implementation

Stepping up to the Future
NH CITIZENS HEALTH INITIATIVE

Patrick Miller, MPH
Research Associate Professor
NH Institute for Health Policy and Practice
University of New Hampshire
patrick.miller@unh.edu

NH's Progress to Date

- ~50% of clinicians have an EMR with some level of electronic prescribing
  - "eRx Lite"
  - the base is largely in place

- 79% of our pharmacies are ready to accept fully electronic prescriptions
  - 179 chain & 47 independent as of June 2008

- Provider awareness building

- Payer connectivity (next slide)

Payer connectivity for 70+% of NH Residents

Anthem	RxHub
Cigna	RxHub
Harvard Pilgrim	None
National Part D Plans	RxHub (majority)
NH Medicaid	SureScripts

Stepping up to the Future
NH CITIZENS HEALTH INITIATIVE

Source: SureScripts

Count of NH prescribers on SureScripts network:

9/30/08 – 338 (168% since start of year)

8/31/08 – 325

5/31/08 – 183

1/31/08 – 126

These figures represent 19 different EMR or ePrescribing platforms operating in NH.

Barriers to Adoption

- Convincing clinicians and office staff that full ePrescribing is better than ePrescribing-lite

- EMR vendor readiness

- "Free is not cheap enough"

- Prioritization within provider IT queues

- DEA and controlled substances

Who is funding the initiatives? *

Most of the Initiatives had several sources of funding, but the top two were:

- ▶ Healthplans
- ▶ Grants—state, federal or both
- ▶ Additional sources included local organizations and/or sponsors within a community, employers.

Not surprisingly, if the Healthplan is a stakeholder in the Initiaitive, it is usually a key source of the funding.

POINT-OF-CARE PARTNERS

eHealth Management & Marketing Consultants

What is your greatest unmet challenge?

- ▶ Moving beyond the early adopters.
- ▶ Providing an ongoing value proposition for the MD community.
- ▶ State and federal/DEA regulations that are not lined up.
- ▶ As long as MDs see eRx/EMR as a burden requiring internal work flow changes that no one is paying for, it will not work.
- ▶ Reach those physicians that are scared of technology.
- ▶ Get additional resources/contracts for expansion.

Continued efforts must be made to change the DEA's regulations to remove the barrier that requires physicians to use two systems-paper and electronic.

What are the lessons learned relative to vendors?

The top three lessons:

▶ **Support**- Vendors must provide dedicated on-site office support. They need a robust service model

▶ **Delivery**- Vendors should deliver what is promised and make sure that what is promised has actually been implemented in diverse environments and it works.

▶ **Workflow-** Vendors need to understand the physician's workflow and stay innovative.

Comments

- "Everything costs more and takes longer by a factor of 2 ."
- "Vendors who did not have "feet on the street" saw lower adoption rates.
- "Deployment to a physician does not mean use."
- "Have a single point of contact who always knows what is going on."

Conclusions/Recommendations

▶ A successful Initiative should consider the following:

  ▶ Professional, dedicated project management a must

    ● Experience in ePrescribing & neutral orientation preferred
    ● Must manage vendors, data, physician organizations & project

  ▶ Incentives are crucial

    ● Compliment existing health plan programs
    ● Enable physicians to capture MIPPA incentives
    ● Provide for 'most important' physicians

  ▶ Physician utilization data base is critical

    ● Allows ROI analysis
    ● Track incentive payments
    ● Managed by project manager

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Positive Results

- Successful adoption yields measurable results
- TEPR annual challenge
- Examples, which follow, highlight commitment and opportunity to move to the next phase-Interoperable patient information within a community and a structural foundation for perpetuating EHR access and portability

E-Prescribing Benefits-circa 2005

Quality of Care

1 of every 73 prescriptions is cancelled or modified because of a drug-drug or drug-allergy (DRFIRST-CAQH study)

Avoidance of 48,000 medication errors in a 300 physician practice – self reported Aurora Practice using AllScripts TouchWorks Rx+

10% reduction in malpractice rates as a result of using an e-prescribing application Temple University Health System – AllScripts TouchWorks Rx+

Operational/Administrative Improvements

50% reduction in pharmacy calls – Joliet Medical Group with TouchWorks Rx+

2 hours/day less spent on prescription process by physician offices Tufts Health Plan Study with PocketScript

> "…enabling our staff to focus on patient care versus administrative tasks." John Drew CFO Joliet Medical Group

E-Prescribing Benefits
continued

Pharmacy Program Compliance

Increase in generic utilization

43% to 55% Tufts Health Plan Study with PocketScript

40% to 52% Temple University Health System – AllScripts TouchWorks

Cost savings

$0.30 -$0.40 pmpm cost savings Tufts Health Plan Study with PocketScript

$0.75 -$3.20 per prescription savings compared to paper prescription CGEY

– AllScripts analysis of 680,000 e-prescriptions

35% of physicians who receive an alert about an off formulary drug change the prescription Kaiser Mid Atlantic report

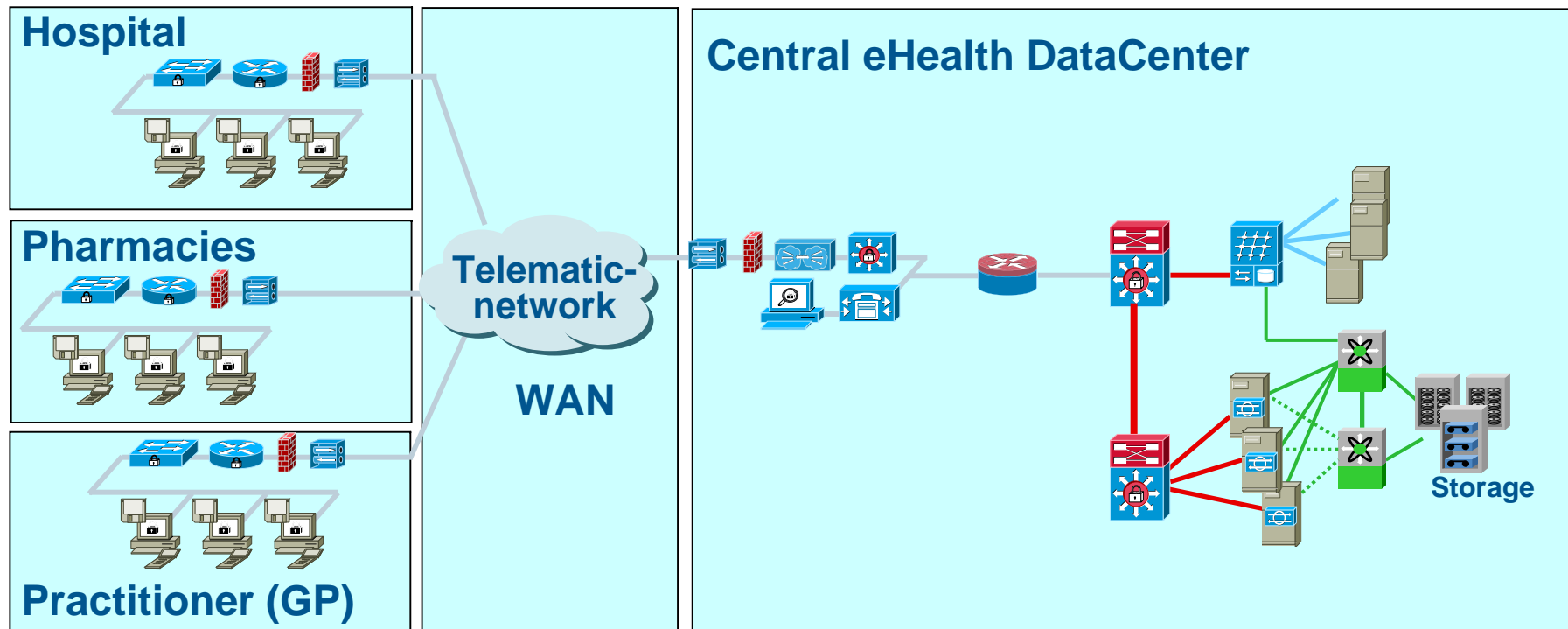…..However, after all of that….you must be present to win!

Physician and Nurse recruitment/retention improved*

- Wireless access combined with total office commitment to electronic records provides a more attractive workplace

- Provides a differentiator which is a major factor in recruitment and retention of physicians/nurses/staff

- Demonstrates to clinic staff and to patients that the practice is dedicated to the best interest of the patient

- Little things like unavailable information/history/labs at patient encounter-visible and annoying to staff and patient before, are gone

- Lookups or access to on-line meds abstracts or Mapquest for a pharmacy convenient for the patient, is instantly there!

- Cuts down on chart updates, overtime, stress, and time spent doing redundant and costly tasks

*Source Kevin Pitzer, Omsted Med Center

…and, Finally, an eHealth target architecture using available web technology

Hospital

Pharmacies

Practitioner (GP)

Telematic-network

WAN

Central eHealth DataCenter

Storage

Quelle: Gematik

Caregivers	HP WAN	DataCenter Services

Application		Healthcare Applications			

Client Hardware	Connector	WAN Routing	DataCenter Switching	Server Hardware	SAN Switching	Storage System

SLA protected by HP